

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 September 2005 (22.09.2005)

PCT

(10) International Publication Number
WO 2005/086585 A2

(51) International Patent Classification: Not classified

(21) International Application Number:
PCT/IL2005/000292

(22) International Filing Date: 15 March 2005 (15.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/552,728 15 March 2004 (15.03.2004) US
60/600,811 12 August 2004 (12.08.2004) US

(71) Applicant (for all designated States except US):
IRALINK LTD [IL/IL]; 16 Derech Hayam st., 34980
Haifa (IL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KARASIKOV,**
Nir [IL/IL]; 49 Hague st., 34980 Haifa (IL). **SLATKIN,**

Michael [IL/IL]; 28 smadar st., 46433 Herzelia (IL).
BEN-SHALOM, Amir [IL/IL]; 8 Mentor st., 71700
Modiein (IL). **TAMIR, David** [IL/IL]; 65 shvedia st.,
34980 Haifa (IL).

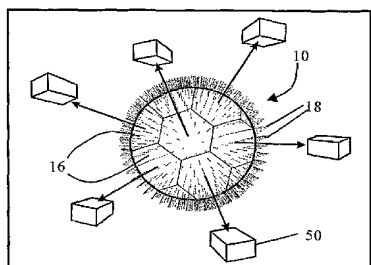
(74) Agent: **APPELFELD ZER LAW OFFICE**; 29 Lilin-
blum, 65133 Tel-aviv (IL).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
ZM, ZW.

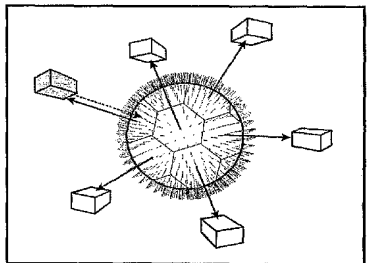
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

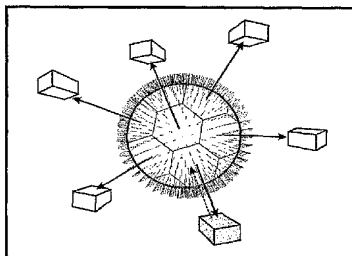
(54) Title: RETROMODULATION-BASED DATA COMMUNICATION



A



B



C

(57) Abstract: A data communication system comprising a transceiver unit for retromodulated optical communication with at least one of a plurality of retromodulator units, the transceiver unit comprising at least one of a plurality of transceivers, the transceivers transmitting diffused radiant energy at different angles covering a predetermined three-dimensional area, wherein each transceiver is enabled to set up and execute communication with at least one retromodulator unit located within its coverage area. Furthermore, a retromodulator comprising multiple arrays of lenslets or spherically arranged lenslets is provided for achieving a wide angle of acceptance. Further more a number of novel applications based on the data communication system are provided, including a remote wireless network connection for a portable computing device, a smart card for remote wireless identification, remote data collection, and remote downloading of digital photographs.

WO 2005/086585 A2



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.